

A new species of *Sinicaepermenia* (Lepidoptera, Epermeniidae) from Thailand

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Abstract Examination of specimens, discovered as larvae at Japanese airports on plants of *Sauropus androgynus*, imported from Thailand, and subsequently reared, has revealed a new species of the genus *Sinicaepermenia* Heppner, 1990. It is described here as *S. sauropophaga*.

Key words Epermeniidae, *Sinicaepermenia sauropophaga* sp. nov., biology, Thailand.

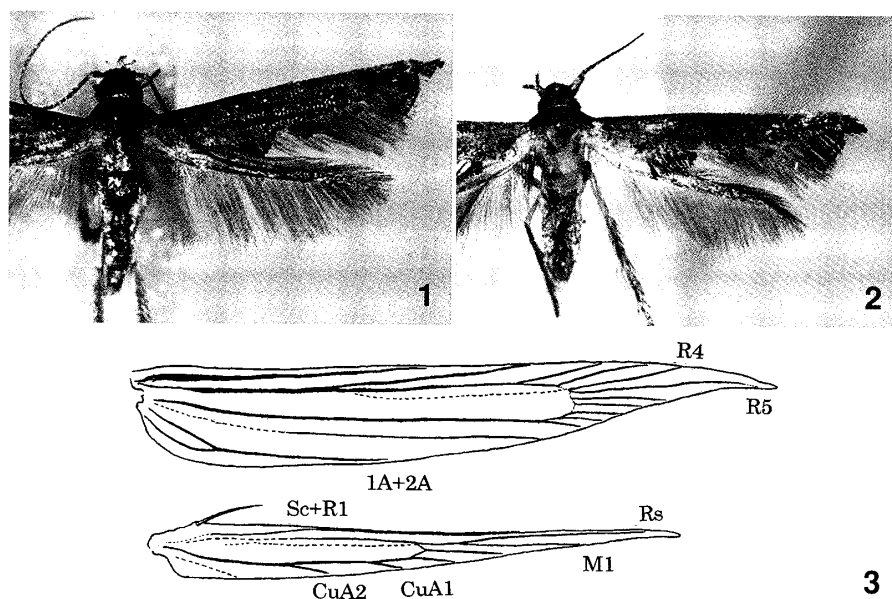
The specimens studied below were detected as larvae by inspectors of the Plant Protection Station in recent years at Nagoya, Chubu and Narita Airports from *Sauropus androgynus*, which was imported as an ethnic vegetable from Thailand. The examination shows that the specimens belong to a new species of the genus *Sinicaepermenia* Heppner, 1990, hitherto known only from Taiwan (*S. taiwanella* Heppner, 1990).

The holotype is preserved in the collection of the Deutsches Entomologisches Institut, Müncheberg, Germany. Paratypes are deposited in the Deutsches Entomologisches Institute, the Natural History Museum, Osaka Prefecture University and Nagoya Plant Protection Station.

Acronyms. DEI: Deutsches Entomologisches Institut, Müncheberg. BMNH: Natural History Musum, London. OPU: Osaka Prefecture University, Sakai. NPPS: Nagoya Plant Protection Station, Nagoya.

***Sinicaepermenia sauropophaga* Gaedike, Kuroko & Funahashi, sp. nov.** (Figs 1 & 2)

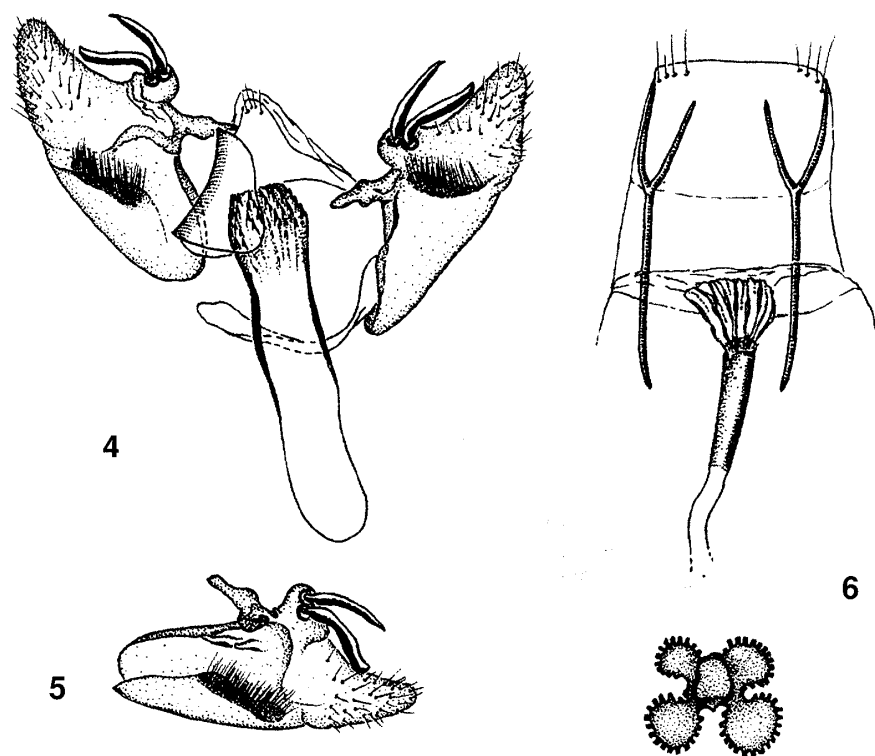
Wing length: male 4.0–4.5 mm; female 4.8–5.0 mm. Head dark reddish-brown, face pale leaden; labial palpus gently curved upwards, apical segment 4/5 length of penultimate one, brown mixed with black scales; antenna filiform, 4/5 length of forewing, with weak pecten on scape. Thorax dark reddish-brown; hind leg fuscous to black, with many stout bristles on whole of tibia and tarsus. Male abdomen with pockets; brownish-grey above, whitish-grey beneath, anal tuft of male whitish. Forewing narrow, apex caudate; index 0.17; all veins present, R_4 and R_5 connect at upper corner of cell (R_4 free, R_5 and M_1 stalked in *taiwanella*), R_5 ending on dorsal edge near apex, 1A and 2A forked basally at basal 1/3 of the vein (1/5 in *taiwanella*), accessory cell vestigial; dark reddish-brown mixed with black scales, the scales dense costally and apically; black dots at 1/4 and 3/4 from base on disc, inner dot small (sometimes absent), outer one somewhat bigger, in some cases with yellow-whitish edge anteriorly or surrounded by yellow-whitish scales, sometimes scattered with whitish scales from the dot towards apex irregularly and an indistinct short whitish vertical line on apex; scale teeth on dorsal margin at 1/3, 1/2 and 2/3 from base, greyish-brown mixed with black apically; cilia greyish-fuscous, with two short blackish lines on terminal cilia. Hindwing lanceolate; index 0.10; all veins present, $Sc+R_1$ long, terminating on dorsum at 2/3 from base, R_s and M_1 stalked at short distance from top of cell (both veins free in



Figs 1-3. *Sinicaepermenia sauropophaga* sp. nov. 1. Paratype ♂. 2. Paratype ♀. 3. Wing venation.

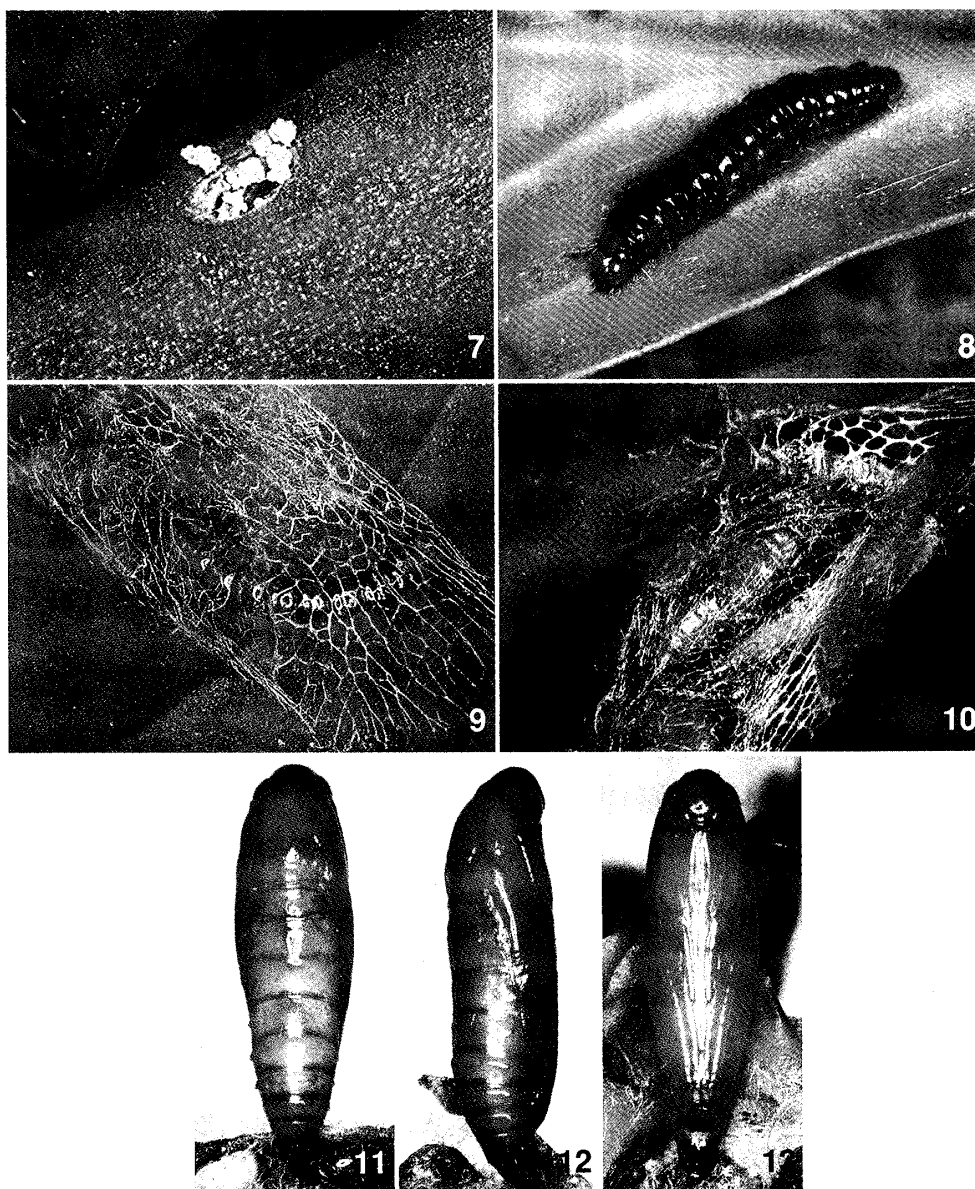
taiwanella), other veins free; pale grey; cilia pale grey.

Male genitalia (Figs 4-5). Uncus merged with narrow tegumen, vinculum narrow, without saccus; valva with clearly developed transtilla, basal margin highly sclerotized, costal edge before 1/2 curved knot-like, with two long and broad bristles, the first one with a pointed



Figs 4-5. Male genitalia of *Sinicaepermenia sauropophaga* sp. nov. 4. Ventral view, holotype. 5. Different view of valva.

Fig. 6. Female genitalia of *Sinicaepermenia sauropophaga* sp. nov., signum separated.



Figs 7–10. Larva and cocoon of *Sinicaepermenia sauropophaga* sp. nov. 7. Small hole made by immature larva, showing excretion of grains of frass. 8. Final instar larva, resting on leaf of host plant. 9. Early stage cocoon, shown in thin network. 10. Cocoon.

Figs 11–13. Pupa of *Sinicaepermenia sauropophaga* sp. nov. 11. Dorsal view. 12. Lateral view. 13. Ventral view.

end, the second one with a blunt end; an oblique bristled area in the middle of valva, cucullus as broad as valva, narrowing at blunt end; aedeagus longer than valva, apical half as highly sclerotized as basal half, with rows of numerous small thorn-shaped cornuti. Figure 5 shows a somewhat different view of the valva, which varies depending on preparation.

Female genitalia (Fig. 6). Anterior apophyses forked, ostium funnel-shaped, with longitudinal narrow sclerotizations, posterior part of ductus bursae strongly sclerotized, signum with four dentate discs, like a ship propeller.

Material examined. Holotype. ♂, Thailand to Nagoya Air port, viii. 18, 2003 em., M. Nagase bred, viii. 7, 2003 (larva), M. Nagase leg., ex *Sauropus albicans* (=androgynus),

gen. präp. [genitalia slide] Gaed.[ike] Nr. 5006, *Sinicaepermenia sauropophaga* sp. n. det. R. Gaedike 2007, DEI. Paratypes. 1 ♀, same location and host plant as holotype, iv. 10, 1995 (larva), DEI; 1 ♀, *ditto*, iv. 13, 1995 (larva), genitalia slide NK 768, DEI; 1 ♀, without abdomen, *ditto*, vii. 7, 2001 (larva), T. Mizuno leg., DEI; 1 ♂, *ditto*, xi. 15, 2003 (larva), Y. Ohno leg., DEI; 1 ♀, *ditto*, xi. 15, 2003, K. Funahashi bred, (xi. 5, 2003 (larva), T. Hosokawa leg.), DEI; 1 ♂, *ditto*, vii. 25, 2004 (larva: vii. 16, 2004), Takahashi leg., BMNH; 1 ♀, *ditto*, viii. 10, 2004 (larva: viii. 2., 2004), Y. Okahara leg., BMNH; 1 ♀, *ditto*, xi. 10., 2005 (larva: x. 28., 2005), K. Funahashi leg., OPU; 1 ♂, *ditto*, xii. 27, 2003 (xii. 16, 2003 (larva)), K. Funahashi leg., NPPS; 1 ♂, *ditto*, vi. 5, 2004, (v. 28, 2004 (larva)) T. Hosokawa leg., NPPS; 1 ♀, Chubu Air port, v. 10, 2005, (iv. 25 2005 (larva)) K. Funahashi leg., NPPS; 1 ♂, from Thailand, intercepted at Narita Airport Cargo Sect., vii. 15, 1996 (larva: vii. 4, 1996), T. Yokoyama leg., host: *Sauropus androgynus*, OPU; 1 ♀, *ditto*, ix. 24, 1999, G. Takahashi leg., DEI; 1 ♂, *ditto*, iii. 21, 2002, T. Inoue leg., slide HK no. 1957, OPU; 1 ♂, *ditto*, v. 28, 2002, T. Iwashita leg., slide HK no. 1958, OPU; 1 ♂, *ditto*, iii. 27, 2003, S. Kawano leg., OPU; 2 ♀, *ditto*, iii. –, 2003, Y. Ishige leg., slide HK no. 1967, OPU.

Distribution. The species originates from Thailand. Although Saraburi is known to be an area in which the host plant is cultivated, the exact area in which the species occurs is still unknown.

Etymology. The new species is named after the host plant genus, *Sauropus*.

Biological notes

Host plant. *Sauropus androgynus* Merrill (= *Sauropus albicans* Blume), belonging to the family Euphorbiaceae.

The immature larva feeds in a tunnel made under the epidermis of the young stem or sprout of the host plant. The larva prepares a hole on the attacked stem, which is certainly used for the excretion of larval frass. When nearly fully fed, the larva leaves the tunnel and folds leaves with silk. After the feeding stage, the larva reaches its mature size (5–7 mm in length) and spins silk to make a cocoon in the space between leaves. The cocoon is spun at first in a thin network and is later reformed. The pupa (about 4 mm in length) is attached in the cocoon with anal hooks.

Remarks. The new species is superficially similar to *S. taiwanella*, but differs in the wing venation and in the shape of the genitalia. Males: sacculus not separated, bristles on costal edge of valva larger, aedeagus with rows of small cornuti. Female: first half of ductus bursae strongly sclerotized, shape of signum characteristic. Although the wing venation of the new species is different from that of the type species (*S. taiwanella*) of the genus *Sinicaepermenia* as mentioned above, we concluded that the new species should be placed in the genus since it has common characters with the other member of the genus both externally and in the structure of the genitalia.

Acknowledgements

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Reference

Heppner, J. B., 1990. New Epermeniidae from Taiwan (Lepidoptera: Copromorphoidea). *Trop. Lepid.* **1** (2): 59–61.

摘 要

タイ国からのササベリガ科 *Sinicaepermenia* に属する 1 新種 (Reinhard Gaedike・黒子 浩・船橋勝幸)

属 *Sinicaepermenia* は, Heppner (1990) により台湾からの種 (*taiwanella*) に基づき創設されたが, その後本属の新しい種は発見されていない。

我国の中部空港および成田空港で数年前から, 植物防疫所の植物防疫官による輸入野菜の検査に際し, タイ国産のアマメシバ *Sauropus androgynus* (トウダイグサ科) の葉から体長 5–7 mm の淡緑褐色の幼虫が見つかり, それらを飼育して開張 9 mm 内外の小蛾を得たが, その正体は不明であった。今回 *Sinicaepermenia* に属する新種 *S. sauropophaga* sp. nov. アマメシバササベリガ (新称) として記載した。

本種の幼虫は, 幼齢期には新しい枝や新芽に潜入しトンネルを作り組織を食べているが, 成長すると孔から脱出し, 葉を綴って暫く食べ, やがて葉間に絹糸を張って繭を作る。

本種の翅脈相は *Sinicaepermenia* 属のタイプ種のものとは違いがあるが, 雄交尾器のバルバの基部に近い上縁部が瘤状に突出し, 長く太い 2 本の剛毛があるのが本属の特徴であるので, これに属すると考えた。

なおアマメシバのタイ国における栽培地としてはサラブリーが知られるが, 本種の発生地はまだ特定されていない。

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